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AUTHOR Repetti, Rena L.
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ABSTRACT

Previous research has suggested that satisfying interpersonal relationships help promote psychological well-being. This study examined the influence that social relations at work have on the individual's mental health. Data were collected in two phases. In phase 1, a volunteer sample of nonmanagerial employees (N=302) from 37 bank branches rated the social environment at their work settings by completing a Social Environmental Survey. In phase 2, an all-female volunteer subsample (N=70) completed an additional questionnaire measuring psychological well-being. The results indicated that the quality of the social environment in bank branches was related to the psychological well-being of employees in the settings. Coworkers' average ratings of the common social environment were significantly correlated with two indices of individual employees' mental health, depression, and anxiety. Self-esteem was not as strongly related to the quality of the social environment as were depression and anxiety. An enhanced psychological significance to relationships with supervisors compared to relationships with coworkers was demonstrated. Practical applications of this research suggest that clinicians should consider the significant impact of the social environment at work and that organizations should realize the influence supervisors exert on the well-being of employees. (References are included.) (ABL)

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Social Factors in the Workplace and Mental Health

Rena L. Repetti

Department of Psychology

University of California at Los Angeles

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Abstract

This study examined the influence that social relations at work have on individual mental health. Averaged coworkers' ratings and individuals' own ratings of the social environment at work were correlated with individuals' self-reported mental health. A group of 37 bank branches represented work environments and 302 nonmanagerial personnel in the branches were participants. Results indicated that the quality of the social environment at work is related to the mental health of employees. More importantly, the relationship was confirmed using an independent measure of the social environment. Individuals' scores on depression and anxiety scales were significantly correlated with their coworkers' average rating of the common social environment.

Introduction

Psychologists are becoming increasingly interested in understanding how social bonds affect mental health. Findings from empirical studies (e.g. Brown & Harris, 1978) as well as theoretical work (e.g. Sullivan, 1953) suggest that satisfying interpersonal relationships help promote psychological well being. Because most employed people spend about half of their waking hours in a work setting, coworkers and supervisors have become major sources of social interaction. The workplace may thus be an important social arena that determines psychological well being.

Social Relations at Work and Psychological Well Being

For many people, social interaction is an integral and vital component of daily worklife (Roy, 1973; Shostak, 1980). Interpersonal relations on the job and the quality of those relationships seem to matter a great deal to workers (Andrisani & Shapiro, 1978; Crosby, 1982; Steele, 1979). Significant relationships have consistently been reported between the availability of social support at work and improved mental health (House and Wells, 1978; Karasek, Triantis & Chaudhry, 1982; Kobasa & Pucetti, 1983; Pinneau, 1975). Support from supervisors seems to be particularly significant (Beehr, 1976; House & Wells, 1978; Karasek et al., 1982). Some researchers have focused on the social climate, or psychosocial characteristics, of entire work settings rather than on specific interpersonal relationships. They find that perceived social climate at work is related to depression (Billings & Moos, 1982; Holahan & Moos, 1982; Wetzel, 1978; Wetzel & Redmond, 1980), psychogenic illness (Colligan, Urtis, Wisseman, Rosensteel, Anani, & Hornung, 1979), and anxiety and self confidence (Billings & Moos, 1982).

Although preliminary findings from these studies are promising, respondent bias represents a potentially critical limitation in the existing literature. Most researchers in this area correlate individuals' perceptions of the social environment with self-reports of psychological well being. This may result in a confounding between measures of the independent and dependent variables. As Reis (in press) has pointed out, "a correlation would emerge from the data, not due to any direct causal influence, but rather to systematic bias in self reports" (Reis, in press, p.8).

Two-Tiered Assessment of the Social Environment At Work. This study attempts to reduce the problem of confounds by clearly differentiating between individuals' internal psychological processes and their outside social situation. Two versions of a social environment at work are measured. The common social environment is the social environment that is shared by all employees in a work setting. It represents the overall social climate at work which is relatively independent of the personal characteristics of any individual employee. One portion of the analyses presented here uses average coworker ratings of the common social environment. These consensual scores represent relatively independent measures that can be related to an individual's well being scores. Here it is assumed that personality-based variations in workers' perceptions cancel out when their ratings are averaged. Consensual scores thus offer the advantage of more independent and error-free measures.

The individual social environment of a single employee within the work group describes only the social space surrounding that person. For example, it may be measured by the amount of social support the employee receives from coworkers and supervisors. Important among determinants of the individual

social environment are personality traits that elicit particular social behavior and responses from others (Snyder, 1981). This two-tiered conceptualization of a social milieu at work - taking into account both the social space that is common to all employees and the social space surrounding the individual - appears to be unique.

The hypothesis tested here predicts that both the common and the individual social environment at work (the predictor variables) are significantly related to psychological well being (the criterion variable). Specifically, psychological well being is enhanced by positive factors and weakened by negative factors in the social environment. The construct, psychological well being, is intended to capture general mental health in a normal population, not to assess clinical psychopathology.

Method

Procedure and Response Rates

The data were collected in two phases. In Phase 1, a volunteer sample of nonmanagerial employees from 37 bank branches (N = 302) rated the social environment of their work settings by completing a Social Environment Survey. In Phase 2, an all-female volunteer subsample (N=70) of these employees, herein referred to as the "target subjects," completed an additional questionnaire which included measures of psychological well being. (See Repetti (1985) for copies of the questionnaires and for additional details about procedures used in the study.)

The response rates for Phase 1 of the study were 44% at Bank A (104 surveys returned from 234 potential respondents) and 96% at Bank B (198 surveys returned from 206 potential respondents). The higher response rate at Bank B

is believed to have resulted from a change in data collection procedures. Surveys were distributed by a bank employee at Bank A and by the investigator at Bank B.

The Phase 2 sample consisted of 70 target subjects from 30 bank branches. All women from each branch were invited to participate in Phase 2 of the study. The subject pool was confined to women because there were not enough nonmanagerial men to form a comparable sample. The investigator telephoned women who expressed interest in further participation to describe the additional procedures and to discuss confidentiality. Those who agreed to participate received a Target Subject Questionnaire within a week. Target subjects were given stamped envelopes to return completed questionnaires directly to the investigator. The response rates for Phase 2 were 92% at Bank A and 70% at Bank B.

Characteristics of Settings and Subjects

Work Settings

Bank A is a medium size commercial bank in a northeastern state. Bank B is a large commercial bank with an international operation; branches included in the present sample represented one small district in a large southwest metropolitan area. Bank branches were chosen because each could represent a separate work environment with clearly definable boundaries. It was reasoned that the high rates of social interaction at work and the fact that different people and physical environs were associated with each setting would allow for sufficient variability in the social climates of the settings.

Subjects

Most of the respondents to the Social Environment Survey were women (93%). A wide range of ages were represented in the sample, from 18 to 65 years; the average respondent was in her early thirties. Approximately half of those surveyed were married (52%); the next largest group was singles (36%) and then divorced or separated (12%). Among Phase 1 respondents, 84% worked full time (defined as 30 hours or more each week). The bulk of the sample consisted of tellers (60%) and platform personnel (27%). Chi-square and t-tests indicated that respondents from the two banks were similar in background characteristics. Despite their self-selection into Phase 2, target subjects appeared to be representative of the Phase 1 sample.

Measures

Predictor Variables: The Work Social Environment

Measures of the social environment were derived from a factor analyses of items on the Social Environment Survey. The factor-based scales are discussed in the Results section. The survey that provided data for the factor analysis assessed both the common and individual social environment at work. Items intended to assess the common social environment were worded in terms of the general climate at work (Example: "There are often conflicts among people who work here."). Individual social environment items were worded in terms of the individual's own personal experience (Example: "How easy is it to talk with your immediate supervisor?"). Also included were items measuring employees' job satisfaction.

More specifically, the Social Environment Survey consisted of the following:

(1) The "Relationship Dimension" of the Work Environment Scale (Insel & Moos, 1974), a 27-item scale that measures the nature and intensity of interpersonal relationships in a work setting.

(2) A four-item work social support scale developed at the Institute for Social Relations (Caplan, Cobb, French, Harrison, & Pinneau 1975).

(3) The five-item job satisfaction scale from the Job Diagnostic Survey (Hackman, 1980; Hackman & Oldham, 1975).

(4) Additional items were specially written to assess components of a common social environment, such as friendliness and respect.

Criterion Variables: Psychological Well Being

Depression was measured by the CES - Depression Scale, a 20-item self-report scale designed to assess depressive symptomatology in the general population (Radloff, 1977).

Anxiety was assessed by The Trait Anxiety Scale (Spielberger, Gorsuch, & Lushene, Vagg, & Jacobs, 1983), a self-report measure of trait anxiety. The scale consists of 20 statements that ask the respondent to describe how she generally feels.

Self Esteem was measured by the Self Esteem Scale (Rosenberg, 1965), a 10-item measure of self acceptance.

For each of the three psychological well being measures, high scores indicated high levels of depression, anxiety, and self esteem.

Results

Measuring the Social Environment

The first task of data analysis was to develop measures of the social environment at work. The 53 item Social Environment Survey was factor analyzed to reduce the data to a few factor-based scales. A Principal Factor Analysis with Varimax Rotation yielded five factors with eigenvalues greater than or equal to 1.0. Together, these factors accounted for 78% of the total variation in the ratings. Two of the factors represented the common social environment and two represented the individual social environment. A separate factor loaded on the job satisfaction items.

On the basis of the factor analysis, four factor-based measures of the social environment were constructed in which each item was weighted equally. The following rule was used to create factor-based scales: An item was retained as a measure of a factor if its correlation with that factor was greater than or equal to .40 and its correlation with the other factors was less than .40. The factor-based scales are described in Table 1.

In addition to the four individual-level scales, a Consensual Global score was computed. Analyses indicated that aggregating Global scores within branches, to create consensual scores of the common social environment, was justified. Global discriminated among work settings, had adequate inter-rater agreement, and was internally consistent. (See Repetti (1985) for a description of analyses at the branch level.) The aggregate variable Consensual Global is the mean branch score for Global with the participant's own rating omitted from the average. In other words, a target subject's Consensual Global score is her coworkers' average rating of the common social

Table 1

Factor-Based Measures of the Social Environment at Work

Measure	N of items	Cronbach's Alpha[a]	Description
Common Social Environment			
Global	22	.93	Items measure the general social climate at work. High scores indicate a cohesive work group in which relations are friendly and respectful.
Intimacy	4	.66	Measures the extent to which employees in a branch tend to be emotionally supportive and open with one another.
Individual Social Environment			
Supervisor Support	4	.86	Measures perceived instrumental and emotional support from supervisors. It is identical to the ISR scale (Caplan et al., 1975).
Coworker Support	4	.79	Measures perceived instrumental and emotional support from coworkers. It is identical to the ISR scale (Caplan et al., 1975).
Consensual Measure			
Consensual Global	22	.95	The mean branch score for Global with the participant's own rating omitted from the average.

[a]A measure of internal reliability of the scale.

environment in the branch.

Testing the Link Between the Social Environment And Psychological Well Being

The factor-based scales of the social environment at work were used to examine the relation between the social environment and measures of psychological well being - depression, anxiety, and self esteem. Possible confounding effects of respondents' background characteristics and jobs were examined first. Most characteristics of the individual respondents and their jobs did not demonstrate any consistent associations with their ratings of the social environment nor with their psychological well being scores. In fact, age was the only significant variable. Older employees tended to report fewer symptoms of depression and to describe a more positive social environment at work. Consequently, age was used as a control variable in hierarchical regression analyses.

The hypothesis that the social environment at work is significantly related to psychological well being was first tested by examining the Pearson product-moment correlations between the primary predictor and criterion variables, as reported in Table 2. Average coworker ratings of the common social environment (Consensual Global scores) were used as an especially stringent criterion for rejecting the null hypothesis. Of the 15 associations between 5 social environment (predictor) variables and 3 well being (criterion) variables, 9 were significant, all in the predicted direction. As predicted, high scores on the social environment measures, indicating positive social relations at work, were associated with fewer depressive and anxious symptoms and higher self esteem. Moreover, Consensual Global significantly predicted a target subject's level of depression and anxiety.

Table 2

Intercorrelation Between Psychological Well Being Variables and Primary Measures of the Social Environment

Social environment measure	Psychological Well Being		
	Depression	Anxiety	Self Esteem
Individual Scores			
Global	-.52***	-.51***	.26*
Intimacy	-.08	-.16	-.05
Supervisor Support	-.52***	-.47***	.29**
Coworker Support	-.11	-.20*	.00
Consensual Scores			
Consensual Global	-.26*	-.20*	.08

Note. N=70. Probability levels are based on one-tailed tests because a directional alternate hypothesis is being tested (Hays, 1981).

*$p \leq .05$ **$p \leq .01$ ***$p \leq .001$

Tables 3a, 3b and 3c present the hierarchical regression model that investigated the combined effects of the common social environment and the individual social environment. The mean coworker rating of the common social environment (Consensual Global) was used as an independent measure of the overall social climate in a branch. The model was computed separately for each of the three measures of psychological well being. Three regression equations were used. Age was entered in the first equation as a control variable and Consensual Global was added in the second equation. Finally, the two social support scores (Supervisor Support and Coworker Support) were included in the third equation as measures of individual social space at work. Each separate equation represents a simultaneous, or simple, multiple regression. The overall model is referred to as hierarchical because it allows one to examine changes in overall R^2 and in individual beta weights as each new group of variables is added to the equation.

In the first set of equations (Table 3a), Depression scores were regressed onto age (the control variable) and the social environment variables. Alone, age accounted for a significant proportion of the variance. In the second equation, even with age included, coworkers' mean rating of the common social environment (Consensual Global) was a significant predictor of depression. When measures of support from supervisors and from coworkers were added in the third equation, the percent of explained variance increased significantly. However, in the third equation Supervisor Support accounted for almost all of the variance, while Consensual Global lost most of its explanatory power. The beta weight for Coworker Support was also negligible.

In the second set of equations (Table 3b), where Anxiety was regressed onto the same social environment measures, the pattern changed somewhat. The

Table 3a

Hierarchical Regression Model Predicting Psychological Well Being From Primary Measures of the Social Environment

Predictor variable	Depression		
	Equation 1 $\underline{B}^a$	Equation 2 $\underline{B}^a$	Equation 3 $\underline{B}^a$
Age	-.24*	-.21	-.13
Consensual Global		-.23*	-.06
Supervisor Support			-.48***
Coworker Support			.05
$\underline{R}^2$	.06	.11	.29
Adjusted $\underline{R}^{2b}$	.04	.08	.25
$\Delta \underline{R}^{2c}$		.05	.18***
$\underline{F}^d$	4.30*	4.14*	6.79***
df	(1,68)	(2,67)	(4,65)

Note. N=70

[a]One-tailed significance tests used with beta weights for social environment variables because the alternate hypothesis is directional (Hays, 1981). [b]Adjusted for number of predictors in the equation. [c]Change in $\underline{R}^2$ from the previous equation (column). [d]Test of the significance of the amount of variance explained by the multiple regression equation.

*$\underline{p} \leq .05$ **$\underline{p} \leq .01$ ***$\underline{p} \leq .001$

Table 3b

Hierarchical Regression Model Predicting Psychological Well Being From Primary Measures of the Social Environment

	Anxiety		
Predictor variable	Equation 1 $\underline{B}^a$	Equation 2 $\underline{B}^a$	Equation 3 $\underline{B}^a$
Age	-.20	-.17	-.11
Consensual Global		-.17	-.01
Supervisor Support			-.42***
Coworker Support			-.07
$\underline{R}^2$	.04	.07	.24
Adjusted $\underline{R}^{2b}$	.02	.04	.19
Δ $\underline{R}^{2c}$		.03	.17**
$\underline{F}^d$	2.75	2.43	5.00***
df	(1,68)	(2,67)	(4,65)

Note. N=70

[a]One-tailed significance tests used with beta weights for social environment variables because the alternate hypothesis is directional (Hays, 1981). [b]Adjusted for number of predictors in the equation. [c]Change in $\underline{R}^2$ from the previous equation (column). [d]Test of the significance of the amount of variance explained by the multiple regression equation.

*$\underline{p} \leq .05$ **$\underline{p} \leq .01$ ***$\underline{p} \leq .001$

control variable did not contribute much power and the beta weight for Consensual Global was not significant. The complete model, again, showed a significant increase in explained variance with Supervisor Support as the best predictor.

Results for the third set of equations (Table 3c), where Self Esteem was regressed onto age and the trio of social environment scores, paralleled the Anxiety findings. Consensual Global did not attain a significant beta weight. Once again, when the two support variables joined the equation there was a significant increase in R^2 mostly due to the effects of Supervisor Support. However, the overall R^2 for the Self Esteem regression was fairly low and not statistically significant. The prediction of Self Esteem scores was significantly reduced compared to the prediction of Depression scores (Wilks' Lambda = .757, F (4,65) = 5.22, $p < .001$), and Anxiety scores (Wilks' Lambda = .816, F (4,65) = 3.65, $p < .01$).

Supervisor Support emerged as the most significant predictor in the above analyses. The robust nature of this finding was further demonstrated in a partial correlation analysis. Partial correlations were performed between Supervisor Support and the three psychological well being variables, controlling for subjects' individual ratings of the common social environment (Global and Intimacy) and Coworker Support. The measure of perceived support from supervisors remained significantly associated with Depression (Partial $r = .31$, $p < .01$) and Anxiety (Partial $r = .24$, $p < .05$) after controlling for the other three primary social environment measures.

Table 3c

Hierarchical Regression Model Predicting Psychological Well Being From Primary Measures of the Social Environment

	Self Esteem		
Predictor variable	Equation 1 B[a]	Equation 2 B[a]	Equation 3 B[a]
Age	.09	.07	.02
Consensual Global		.07	-.02
Supervisor Support			.32**
Coworker Support			-.09
R^2	.01	.01	.09
Adjusted R^{2b}	-.01	-.02	.04
ΔR^{2c}		.00	.08
F^d	.51	.43	1.63
df	(1,68)	(2,67)	(4,65)

Note. N=70

[a]One-tailed significance tests used with beta weights for social environment variables because the alternate hypothesis is directional (Hays, 1981). [b]Adjusted for number of predictors in the equation. [c]Change in R^2 from the previous equation (column). [d]Test of the significance of the amount of variance explained by the multiple regression equation.

*$p \leq .05$ **$p \leq .01$ ***$p \leq .001$

Discussion

The hypothesis that the quality of the social environment in bank branches is related to the psychological well being of employees in the settings, was supported. More importantly, the relationship was confirmed using an independent measure of the social environment. Coworkers' average rating of the common social environment was significantly correlated with two indices of individual employees' mental health, depression and anxiety. By demonstrating that the link between social relations at work and psychological functioning is not due simply to a self-report bias, the study lends credence to reports of similar associations based solely on individual-level correlations. Because psychological well being is determined by many factors, it was anticipated that the effect of the social environment at work would not be very large. Yet, measures of the common and individual social environment accounted for over 20% of the variance in depression and anxiety scores and up to 9% of the variance in self esteem scores.

Self esteem was not as strongly related to the quality of the social environment as were depression and anxiety. It may be that depression and anxiety, which were highly correlated with each other, reflect one's subjective sense of current emotional well being and comfort, as intended in the study. In contrast, self esteem may represent a more stable personality trait that is protected by the individual (Phillips & Zigler, 1982; Wells & Marwell, 1976). Support for this interpretation is found in a recent empirical investigation of the structure of psychological well being in which a separate self esteem factor was not identified (Veit & Ware, 1983).

Individual and Common Dimensions of the Social Environment. The conceptual distinction between a common social environment and an individual social

environment was supported by the factor analysis of the Phase 1 survey. Questions worded in terms of the two dimensions of a social milieu loaded on separate factors. Moreover, the job satisfaction factor demonstrated that the distinction between "common" and "individual" items was not merely an artifact of wording differences. Job satisfaction items were written both with direct wording about the self and with indirect wording about the work in general, yet they loaded on a single factor. In addition, the isolation of job satisfaction items implies that employees differentiated between perceptions of the social enviroment at work and feelings about their job.

Although the argument that "good health and good relationships are more likely in competent people" (Reis, in press, p. 8) has merit, this study suggests that there is more to social experiences at work than that. It is not simply the case that healthy individuals create a positive social space around them and that the individual social environment, in turn, reinforces their psychological well being. The more remote common social environment, which an individual employee is less able to shape, was also related to psychological well being, albeit to a lesser extent. In sum, results of the study imply that there is something inherently beneficial and/or detrimental about social relations at work. The findings make clearer the advantage of a two-tiered assessment of the social environment. Both individual and common dimensions may influence psychological functioning; a focus on only one can obscure the importance of the other.

The Importance of Supervisors. The results of this study, in concert with previous research, suggest that there is an enhanced psychological significance to relationships with supervisors compared to relationships with coworkers. In multiple regression analyses it was found that relations with

supervisors had the stronger impact on psychological well being. In fact, coworkers often appeared to have no effect at all. Perhaps workers are more emotionally vulnerable in role relationships with supervisors because they feel less able to influence and change those interactions. An explanation based on a relative lack of control is consistent with the learned helplessness theory of depression (Abramson, Garber, & Seligman, 1980). In addition, an employee's psychological reaction to conflicts with a supervisor might be further compounded by worries about job evaluations, chances for promotion, and possibly even the loss of her job.

Conclusions. The results of this study have several implications for researchers. First, they demonstrate that social factors in a work environment are related to mental health above and beyond personal characteristics that create individual social space and independent of self-report bias. Second, the findings also point to the highly salient role of supervisors. Third, they indicate that the conceptualization of a two-tiered social environment at work and the methodological strategy of using aggregate independent ratings of the common social environment are promising innovations. However, the findings should be replicated with different populations. It is important to discover whether the obtained relationships generalize to men and to a variety of occupational settings.

Finally, the findings of the study also have practical implications. For example, they suggest that clinicians should consider the significant impact that the social environment at work, and especially supervisors, have on the psychological functioning of their clients. Organizations should also take note of the influence that supervisors exert over the well being of employees. Consultants can take advantage of the critical role played by supervisors in

order to build social environments at work that enhance employee well being. For example, developing training programs for supervisors may be a relatively inexpensive and effective way to improve the quality of life in organizations.

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